CASTRATION IN MENTAL AND NERVOUS DISEASES.

A SYMPOSIUM

BY

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CASTRATION, in the wide sense of the word, both of the male and female, has an import which attaches to no other surgical operation. It not only puts in jeopardy the life of the individual on whom it is performed, but it involves the certainty of the non-production of the whole series of beings that might result from man's obedience to the first command of his Creator, "Be fruitful and multiply." Its potential fatality, as regards the subject of it, sinks into insignificance when compared with the absolute extinguishment of one line of the species. Hence its gravity among moralists, and the severity with which it has been visited by legislators. Death and penal servitude for life, without remission, are the punishments set by some codes upon the crime of unjustifiable castration; which term is made to include all mutilations that may put an end to the virility or fecundity of the victim.

The duties of a surgeon often lead him near the confines of what is illegal. With the deceptive plausibilities of patients, their indefinite notions of morality, and his own propensity to action, induced by sympathy with distress, the balance of prudence is sometimes apt to waver in uncertain hands. One is thus brought to see how indispensable strict ethical training is as the complement of technical education, how needed is a check upon the impulses of acquired or reputed manual dexterity, how, in reference to laparotomy operations in general, the profession should be made to feel that it is acting under the restrictive influence of the opinions and decisions of its wisest and most vigilant leaders, and how urgent it is that those leaders should rise to the level of their dignities and responsibilities.

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The advances made in abdominal surgery within the last five and forty years are, to those who have passed a long life in practice, who have been sharers in the work done, and who have found time to look about them and note what their contemporaries have undertaken, something astounding. Men of to-day, launched upon the full flood, have little idea of how the rush of accumulated experience which carries them along has been made up; or of the struggles and perplexities those who were the first to move had in paddling and steering through the swamps of difficulties, and in face of the blasts of prejudice. Progress was slow and there was time for reflection. It is not to be wondered at that such reflection sometimes caused hesitation and yielding before obstacles. Cooper, Lawrence, Green, Brodie were great surgeons. They did and taught surgery that was the boast and honor of their day. But they were orthodox men; they reverenced authority, and were authorities themselves. A pause for inquiry as to what was going on, and where it would lead to, was, at their suggestion, not dishonorable and did good service. It helped to enlighten and liberalize them, and it moderated the contagious impetuosity of the new adventurers. It would not be unwise if we made a halt now, and took account of our position in regard to some points that are pressing and open to question. We may be among the last to stand in the way of clear-sighted attempts to move onward, but wish always to be guided, and to see others guide themselves, with caution and in the light of reason.

This is not the place to go into the history of ovariotomy. But it may be well to recall some points in it connected with the subject before us. In its early days the operation was looked upon as a personal enterprise, to be taken up every now and then by men of the Livingstone, Brunell, or Columbus type, who were either vaguely enthusiastic, stimulated by an impulse for out-of-the-way performances, or so wise and so far ahead of their times that few could understand them; and fewer still were inclined to follow an example which, though it might meet with a certain amount of success, excited astonishment and suspicion more than admiration, and brought little other reward than the consciousness of having made honest efforts to rescue suffering women from impending death. Then came a time when things were different. The profession took up the matter seriously and practically. It was still an assault upon unsolved problems. But the contention ended in the opening up and annexation of the "whole domain of peritoneal surgery." It was like the discovery of the Californian diggings or the African diamond fields. The way was cleared for all prospectors, and the benefits spread world-wide. Between the years 1840 and 1865 the excision of ovarian tumors came to be accepted as a sound piece of surgery, as admissible among the arts "*quæ prosunt omnibus*" as lithotomy, and more promising in its results than most other capital operations. It became naturalized in England, was taught in the schools, and soon threw out an abounding crop of controversial and didactic literature.

But there was a reverse to this bright side of things. Inexperience, rashness, maladroitness threatened danger. I saw then for ovariotomy, as we now see for laparotomy, a disposition to wild, irreflective meddling. In my book, published in 1865, I seem to have anticipated something similar to the present folly, though not nearly to the extent it has now gone. Here is what I say in the preface: "I cannot send forth this volume without a word of caution. A discovery which has triumphed over opposition of all kinds, honest and scientific, prejudiced and ignorant, may still be ruined by the support of rash, inconsistent, thoughtless partisans, whose failures do not reflect so much discredit on themselves as on the operation they have badly performed in unsuitable cases. Indications are not wanting that ovariotomy has entered on this phase of progress, and there is reason to fear that judicious men may be influenced by the outcry of the foolish, and that a triumph of British surgery, which has been won by such great labor and care, may be arrested before it is complete—may even be converted into temporary defeat—by the indiscriminate support of zealous but injudicious advocates." We are not wrong in assuming that such warnings—for mine did not stand alone—were not useless. More discrimination was shown in the selection of cases, diagnosis was more scrutinizing, operators fitted themselves better for the work by reading and observation, and both unsuccessful operations and incompleted attempts became less frequent.

But ovariotomy was not only viable and strong. It had in it an unsurmised power of fecundity which we can now estimate by the many prefixes to its terminal dissyllable. Before the present reign, the art of midwifery was somewhat in the shade. The needs of royal maternity gave it the prestige which was wanting to its utility. Knightly spurs and hereditary rank were won in the palace chambers. The title was a little incongruous with the old familiar term midwife. The synonymous accoucheur came into vogue, but it did not accommodate itself to the linguistic requirements of professors and writers, and was objectionable as being imperfectly euphemistic and too directly artistic. Something with a more scientific twang was the desideratum, and obstetrician seemed for a while to be all that could be hoped for by those who were ambitious of showing that they could propound doctrines as well as handle forceps. Yet women, whether in the hands of Shandean Slops, or Caxtonian Squills, are not always as they should be, either before or after the great obstetrical event. They have maladies before, meet with accidents at the time, and often suffer consequences which require surgical skill for their cure. Some could split a perineum, but it was not every one who could put it right again, and obstetricians soon began to foster a competition for secondary specialties, to indulge in the creation of Greek compounds, and were not long in fitting themselves with the distinguishing appellative of gynecologists. Gynecological societies were the inevitable complement of this sectarianism, and in their proceedings we find all their speculations and manipulations so put in evidence that we can leisurely watch and criticise them in their budding, blooming, and fruition.

The growth of specialization in medical science is at the same time a benefit and a peril. It is well to know that men of broad culture, capable of linking each small and special area of research to, and viewing it in the light of the vaster realm in which it is an essential and inalienable factor, devote themselves to particular investigations. And if special gatherings were schools of instruction by masters, instead of theatres, with rapidly recurring exhibitions of curiosities and recitals of marvels, which must be made forthcoming by some means at the appointed time, we could appreciate them. There is a wide difference between one man acting and ruling as a specialist, and a miscellaneous lot of men grouping themselves together and each pushing to the front as a society of specialists. The master of a pack of hounds must be a specialist in his way, but it would be absurd to suppose that every rider in the field would be able to take his place, or any other than that of a follower. But herein is the danger with groups of gynecologists. It would not answer for all to run on in the same track. To be anything, each must hunt up his own little therapeutical quarry and keep to it. Groping among details is an absorbing and paralyzing occupation, and soon the curve of a pessary or the lining of a speculum fills the field of vision, and great principles are lost sight of. With one such idea kept steadily running in the same groove, a man may quickly find his way down to the lowest level of routine womb-scaffolding or singeing. And so it is that while out of the multitude of gynecologists a few inspired with Hunter's idea "all discord, harmony not understood," are spending their lives in the higher regions of speculative inquiry, thinking, developing ideas, multiplying original principles, and applying them to the pathological phenomena peculiar to the female sex—with a special view to the elucidation of their causes, mode of origin, and prevention—the rest are dispersing themselves over the lower ground of therapeutical action. Disease exists, the how and the why concern them not. Why search into the inscrutable? If the faults and follies of mankind engender excisable matter, their business is with the palpable, and to get rid of it. So myomotomy follows ovariotomy, Porro supplants the

Cæsarean, Battey breaks through his difficulties with "normal oöphorectomy," and the *Moutons de Panurge* are soon seen flocking over his gap. It is with this castration that we have to deal.

It is about fourteen years since the operation of normal ovariotomy, as Battey called it, was brought practically before the profession. It is now impossible to ascertain how often, or by how many surgeons, it has been done. But the most recent bibliography of the subject extends to about five octavo pages, and comprises the names of more than one hundred and fifty writers. The greater part of these publications consist of the accounts of cases and the discussion of points of practice. Some of the matter is critical, much of it defensive and exculpatory. So that it has both a history and a literature.

The operation itself is in no sense a novelty. It has been practised in all times, though not for surgical reasons. In the last century, about the same time, L'Aumonier and Pott did it remedially; the first, without premeditation in the course of opening an abscess in the iliac region. Pott, however, intentionally took away two ovaries which formed inguinal hernias. Though Blundell never did the operation, it would be unjust to omit all reference to his so often cited prophetic suggestion, made before the Medico-Chirurgical Society, in 1823. Lassus, in 1858, and two German writers, mention some other cases similar to that of Pott. In 1869, Kœberlé, while putting a ligature on the broad ligament for the relief of a retroverted uterus, took away an ovary which embarrassed his proceedings. Esmarch, too, a little while later, removed both ovaries from a young woman who had congenital atrophy of the vagina. The monthly sufferings were so great that each time her contortions forced the ovaries through the inguinal openings. They were the point of departure of all the neuralgic radiations, and Esmarch cut them away as a dentist would draw a troublesome tooth, without theorizing about the suppression of function and anticipated climacteric. He simply did a perfect castration and left the titular honors of normal ovariotomy, or oöphorectomy as it was soon after called, to Battey, and to Hegar, who began to use the phrase "castration of women."

These two surgeons, in July and August, 1872, within twenty days of each other, did the operation of castration by the abdominal section. One was at Fribourg, the other at Rome, in Georgia. Of course, they knew nothing of each other's reasonings and actions. Both their patients were in much the same condition, with menstrual neuralgia. Hegar's patient died of septicæmia, and he held his hand for four long years. Battey had a better chance. His patient got well and was quit of her troubles. Elated by the success of his operation, he hastened to make known what he had done by a notice in the *Atlanta Medical and Surgical Journal*, the September following, and six months afterward gave all the details of his performance, and defended his theory, before the Medical Society of Georgia. Both men had the same idea, or nearly so. Esmarch's object was nothing more than the removal of the organs that were the seat or the cause of pain in his patient. It was a question of function and constitutional effects with the two pathologists. Hegar, from the first, explicitly stated that what he hoped to do by castration was to bring about a suppression of the ovarian function, a cessation of the periodical and intermittent influence of the ovaries on the whole system, and an early declaration of the menopause. Whether Battey went as far and was as clear in his conception of the import of the proposal has been doubted. He had taken a long time—six years—to deliberate and to consult about it, and met with nothing but indifference and disapproval. His arguments brought no one over to side with him. It was said that his idea was merely that of calming down pelvic disturbance, without calculating upon further consequences; but he distinctly mentions that he expected a "change of life" to follow the castration. If he did not argue out the matter, and expound his doctrine, with German elaborateness, we may at least admit that he knew what he was about and had considered what was likely to happen. At any rate, he thought out his subject carefully, acted independently, and was the first known to do so. He was prudent, waited patiently, and watched assiduously for a fair occasion to put his proposal to the test, and at last succeeded in showing it to be logical, rational, and effectual in practice. If his arguments had made few converts to his opinions, his practice was soon adopted by followers, and he is entitled to the credit of originality.

Up to this time we had heard only of menstrual difficulties as a motive for oöphorectomy. The ovaries were treated as confirmed and convicted culprits. Battey seems to have spent as much as six years in reformatory efforts with his first case. It was only when all looked utterly hopeless and incorrigible that the extreme penalty was resolved on and carried out. It was a sorry alternative, and not one to boast of. When a surgeon is obliged not only to put on the black cap but to become the executioner, the only redeeming point in the business is the skill he may display in carrying out the sentence. The blot is the necessity for such a measure. As society is wanting in reference to crime, so the profession is wanting in reference to disease. There is too much law, and not enough gospel; too much doctoring and not enough philosophic pathology. It might be otherwise. With better principles and training we should see less of crime and its consequences. With a keener estimate of the higher functions of medicine, more thinking, more research and systematic dialectical reasoning, there would be more defiance of disease, more life-giving power, and less of surgery. But we are not yet at this point, and dysmenorrhœal invalids may in the meantime be thankful that there are still some oöphorectomists as considerate and merciful as Battey.

The year 1872 was remarkable in that, within a month of each other, three oöphorectomies were done by three different surgeons, in three different countries, without either of the three being aware of what the others were about. We have noticed the operations of Battey and Hegar. On the first of August, a few days after Hegar's operation, Tait, of Birmingham, is reported to have also removed two ovaries from a woman who was sinking from irrepressible hemorrhages due to uterine enlargement or tumor. She recovered and was better two years afterward. In the course of the next year it is also recorded that he did three more similar operations. In two of the cases he took away only one ovary. That was imperfect castration—not the complete operation of Hegar. The want of appreciation of Hegar's motive for the operation is evident. Of a large proportion of Battey's early operations, the same defect is also apparent in the tables. It would seem that he too had failed, from some unexplained reason, in fidelity to the principle upon which all rests.

Gillmore and Pallen, Americans, did the bilateral operation in December, 1872, with success. In the next four years many other names came upon the lists, as Peaslee, Trenholme, Goodell, Sims, Thomas. These for the most part followed Battey's example, and at the beginning operated on patients with ovarian neuralgia and general nervous symptoms, or with some congenital imperfections interfering with menstruation.

Then, in 1876, Trenholme did as Hegar and Tait had done, and used the operation for hemorrhage, depending upon uterine fibroids. Later on, operators found all sorts of pretexts for operating. Too many of their operations were imperfect. Of eleven operations done by Sims, between February, 1875, and August, 1881, six were unilateral. Nor was the mode of operating determined; some choosing to do the removal by the vagina, others by the abdominal section. At length, in 1881, Battey, deploring the abuse of his operation, when at the International Congress held in London, felt himself constrained to renew his protest, and record the fact that up to that date he had met with only fifteen cases in which he could see reason for carrying out the practice.

It was not until 1876 that Hegar, in Germany, recommenced operating. In August of that year, he removed the ovaries from two women who had hemorrhagic fibroids. Both were saved and benefited. Kaltenbach then, in the following October, operated under the same conditions, but his patient died. Nussbaum had a success the same year. Between that time and 1879, Martin, Freund, Fehling, and Tauffer castrated several women, mostly for fibroids that could not be otherwise treated. The idea in Germany was that as Hegar pointed out; this was the most legitimate use of the operation. Tauffer and Langenbuch thought the practice might be extended, and operated in some instances in which the dysmenorrhœa and other symptoms were manifestly of ovarian origin. But upon the whole the influence of Hegar's doctrines prevailed, and no such outburst as took place in America was seen in Germany. The reports of Wiedow, at Fribourg and Copenhagen, show how important have been the amount and success of oöphorectomy in uterine cases among the Germans. In Switzerland Bischoff, Bircher, and Müller took up Battey's notions and practice without hesitation. Since 1880 the operation has been accepted in Spain and Italy.

It is not the first time it has been said that there are some things which the French manage better than we do. And certainly in some gynecological matters it has been so. The logical faculty is strong in Frenchmen. It would almost seem that their women are not to the same extent as others liable to pelvic troubles. The subject of oöphorectomy had become repulsive from the fanaticism in America, and perplexing from some of the English revelations. Batteyism was on its trial and undergoing a process of classification. There was time to wait. *Fiat experimentum*—they could be content for a time with observations and reports. So things went on till 1880, when convinced of the rightness of the principle, and that the operation in the hands of judicious men was being turned to useful account, Professor Duplay operated in a case of fibroma, taking away both ovaries. His second operation was in 1884. Péan began in 1882 and has altogether reported eight operations. Three of his cases had congenital absence of uterus and vagina. The five others were neuralgic. Though, in general, abdominal sections are not popular among French surgeons, they are now carefully choosing their cases for oöphorectomy. The usages of French surgical practice render an epidemic of laparotomy very unlikely.

The operation was not at first well received in England. Tait, of Birmingham, has been identified with it from the beginning. He has modified it and extended its application. Many others have followed in his steps; some have tried to outstrip him. The ovaries and all their appendages now go the same way; and the meshes of the physical, mental, and moral network of reasons why the operation should be done are so closely woven that few cases of a perplexing nature, that can anyhow be connected with the generative organs or functions, have a chance of escaping laparotomy or something more. The present state of oöphorectomy in England proves how fully justified I was in writing as I did in 1882, and shows how little my warning has been attended to. I said then, and I have not a word to retract now: "Though I accept the principle, I see that the operation has a very limited application, and is so open to abuse that its introduction in mental and neurotic cases is only to be thought of, after long trials of other tentative measures, and the deliberate sanction of experienced practitioners. . . . . Except in cases where bleeding fibroids may call for the extirpation of the healthy ovaries, we might at least require some evidence of the ovaries being diseased before consenting to their extirpation in the hope of curing any of those vague nervous disorders to which women are so subject, which are often dispelled by moral treatment or social changes, often benefited by measures which can have but little effect except on the imagination, often return after cure in any way, and leave the hopeless beings the prey of unscrupulous or illogically enthusiastic experimenters."

The danger is now increasing as the operation is becoming world-wide. The oöphorectomists of civilization touch hands with the aboriginal spayers of New Zealand. The ovary, is in fact, the nucleus of gynecological science and the source of gynecological practice. Its products give occupation to the obstetrical art. The disturbances it sets up in the system at large are the prairie grounds of its proletarians. The morbid structural changes, displacements, and accidents of it and its appendages are the arena of its operators. Wonderful, indeed, is the hydra-like tolerance of women of sections and mutilations under their hands!

But the ovary is more than this. Reproduction is the dominant function of woman's life, and all her other living actions are but contributory. Physiologically and pathologically, the generative organs have peculiarities of which the surgeon must take account. They are not vital organs. The purpose they serve is more in relation with the species than the individual. Their life of functional activity is not of the same extent as that of the being of which they form part. The bodily health is none the worse, perhaps better, during the time of their quiescence. Disease is exceptional in them before puberty. The time of their activity is the time when they are most often attacked by disease. The origin of diseases in them which prove fatal after the change of life, may almost always be dated back to the middle period. They affect both the physical and mental powers and qualities during the time they are in development and full play; not much before or after. The tubes, womb, and vagina are accessories more or less essential. The ovary may exist without them; but it is seldom that the tubes, womb, and vagina are fully formed in the absence of ovaries. There may be an evolution of ova when the appendages are no longer there or are even cancerous. When the ovaries are diseased or removed function stops, and the other parts shrink up. None of the subordinate parts of the passages can do what the ovary does, but the tubes may supplant the uterus as the seat of gestation, and the uterus, except during pregnancy, acts chiefly as a section of the tube. In infancy and old age its cavity is contracted and approaches nearer the form of the tube. There is a fact, too, which should never be neglected by the surgeon in coming to a decision about the operation of excision, especially in cases where the indications are not positive—to wit, that the ovaries are not such isolated organs, nor so invariable in their number, as is generally supposed. There, as elsewhere, is shown the tendency to revert to lower types of development; and patches of ova-bearing tissue may exist in adjacent peritoneal folds. These may be beyond the ligature of the pedicle; and, if left, keep up the sexual impressions and power of periodical ovulation. Liégois mentions this subject in his *Physiologie appliquée à la Médecine et à la Chirurgie*, of the date 1869. Waldeyer found a piece of ovarian tissue in the pedicle of a tumor after having, as he thought, finished an ovariotomy. Weigel counted, out of six hundred women examined, no less than twenty-three with more than the ordinary two ovaries. Instances of regular menstruation, and even of pregnancy, after double ovariotomy, have been met with sufficiently often to show how easy it is for the expectations of a surgeon to be thwarted by a condition which he can neither foretell nor determine exactly at the time of his operation.

The fact that women remain for some five-and-thirty or forty years with a certain part of their organization in a state of periodical excitement, ready for the special act of childbearing, would lead *à priori* to the supposition that the whole of that organization must in some way or other show the effects of it. And such is the case. At an early age females are more tenacious of life, and the mortality of boys is greater than that of girls. During the procreative period the excess is on the side of the females, independently of the mishaps of childbirth. After the climacteric, male deaths are in greater proportion. The disproportion in the number of the two sexes in the living population would be still more marked than it is, were it not for the casualties and diseases connected with maternity. There is a constitutional difference between the sexes at all times; but during the time when women are essentially females, they have more sensibility and excitability, a more lax and delicate fibre, with a strong tendency to nervous affections and diseases of an asthenic character. The development of puberty produces one set of disorders, usually anæmic; ovulation, parturition, and lactation give rise to another class; while nervous anomalies and degenerations of tissues mark the decline of the functions and the torpidity of the organs of generation.

So far as regards the many diseases, the relief of which by castration has been either proved or postulated, we may virtually put children out of the question. They may occasionally require ovariotomy, but with that at present we have nothing to do. In one of the most recently published tables of oöphorectomies, the earliest age among the patients operated on for hemorrhagic myoma was eighteen, for ovarian neuralgia and hysteria seventeen, and she was none the better for it, and the youngest on the malformation list was eighteen.

Péan once castrated for epileptic symptoms with mental disorder at the age of 45, with no good result, and this is the most advanced age mentioned in the table of nervous patients. The age next below that was 40. 52 is the extreme age in the table of uterine cases, and the patient died some months afterward of cancer. It would thus seem that in all the older patients who submit to abdominal section, it is ovariotomy for cystic or other enlargement of the ovary that is done. Out of 171 cases undergoing the operation for hemorrhagic uterine fibroids, 53 were between 30 and 40 years of age, 62 between 40 and 50, and only 9 below 30. The number of cases of oöphorectomy for other causes is comparatively small, and few of them outside the middle age. The limits of our investigation of the diseases requiring oöphorectomy are thus drawn in within the narrow compass of the 20 years of woman's life between the ages of 30 and 50. The find here cannot, in the common run of things, be very rich except for fibroids. If the apostle of the doctrine could accept only 15 cases as fit for the operation in the space of ten years, we may assume that, in any great advance upon that proportion, there must be either some self-deception or some want of judgment.

During the twenty years just named, the most common disease to which women are subject, connected with the organs of generation, is an abnormal development of the uterine muscular or fibroid tissue, either interstitial, or projecting from one or other of the uterine surfaces. Such tumors occasion discomfort often so great as to incapacitate for social life. They are impediments to childbearing. They give rise to a variety of reflex nervous symptoms, sometimes almost insupportable. They may cause ascites or set up acute or chronic peritonitis, and dangerous hemorrhages are a notable consequence. Occasionally their pressure on the large vessels, nerves, lymphatics, ureters, rectum, and bladder has been fatal. And Roehrig declares that, among the cases bad enough to resort to Kreuznach, there has been a direct mortality of 11.4 per cent.

A disease against which stands such a formidable array of accusations calls for all the resources of science to remedy it. Although many women suffer less than can be easily explained, it must be the misery and ruin of a long series of existences. Medical treatment does not count for much. The results of myomotomy are deplorable even now. And the operation, when not fatal, has often been incomplete. The tumors have, as it were, a sort of gregarious habit, and the patient is left liable to a relapse to her former state, either from the growth of those abandoned, or from new formations. Many writers have maintained that one out of every five or six women has uterine fibroids of some kind, large or small, unheeded or troublesome. Fortunately, if it be so, the greater part of them have only a transient existence. The numbers that turn up in a state of degenerescence or transformation in the autopsies of old women show that they have a tendency to shrink up, or become innocuous, if there be a survival of the menopause.

Based on this fact, castration, as compared with myomotomy, presents us with the striking contrast of a mortality of only 14.6 per cent., a diminution of the tumors, a stoppage of the hemorrhages and a disappearance of many of the accompanying symptoms. Moreover, as half this mortality has been due to septicæmia, there is here a wide field for surgical enterprise.

But the uterus is only a section of the ovarian outlet, destined for the temporary sojourn of the embryo. We have not exactly determined what are the influences on the constitution of the natural functions, and do not know much of the pathology of the strictly efferent part of the tubes—the oviducts or the Fallopian tubes. Sometimes they usurp the incubatory office. Then, no doubt, as death is otherwise mostly inevitable, the best thing to do is to extirpate them as soon as we can be assured that their condition is menacing life. But latterly they have had as sorry a time of it as the London dogs. They are erectile structures and blushed at the touch of the abdominal explorer. A cry was raised against them as subject to congestions, dropsies, constipations, purulencies, hemorrhages, neuralgias, and as the propagators of all sorts of psychical aberrations. Then followed a savage raid, and every hypogastric malaise incurred an exploration or a sacrifice. As with other tubes, the inlet, passage, and outlet are not always as free as they should be, and the contents are not always normal. Irritated themselves, they cause irritation elsewhere. As much may be said of and against similar things in the male. But would anyone strip off the penis for a stricture or a gonorrhœa, or castrate a man because he had a hydrocele, or was a moral delinquent. It is better to be candid and patient, say we know but little, strive to learn more, and in the meantime abstain from doing mischief. Who can diagnosticate with certainty the presence of irreparable disease in these out-of-the-way organs. An exploratory incision is an avowal of ignorance, and too often the expedient of impatience. How far is it justifiable as a means of diagnosis in diseases short of fatal, where there is time to wait?

A case of congenital malformation, with what is now sometimes called obstructive dysmenorrhœa, ending fatally, under his care about the year 1866, was the inspiring cause of Battey's reasoning on the subject of the extirpation of the ovaries as a remedial measure. Gilmore was the first to put his conclusions to the test in reference to this particular point. Peaslee followed in 1876, and Battey in 1877. Battey had the satisfaction of a good result. So too it was with Gilmore's case. Since then the operation has been done for the same or similar reasons, so far as we can judge from the small numbers, with a mortality of about fifteen per cent. In this category of cases we may place obstructions to the menstrual functions acquired in severe labors, by accidents, by gynecological attempts at surgery, or occasioned by pelvic distortions, flexions, and displacements of the uterus. They are, after all, not very common, and oöphorectomy, as a means of getting rid of the difficulty, is less dangerous and more certain than the other operations done to relieve or gratify the patients.

The ovaries themselves are often the seat of pain, and the cause of acute neuralgia and hysterical symptoms. The attacks occur with the periodical excitement of the organ. Every now and then such symptoms show their connection with it by being the accompaniment to impregnation, and to some women the proof of conception. They often attend the early stage of growth of cystic disease. Repeatedly, a cessation of the attacks of pain has followed the operation of excision. This was the result in three out of four operations that I have performed. Cause, effect, and remedy are here plainly demonstrated. As to my two other operations, in one it was probable that the benefit was as much owing to the reposition of a thickened and retroflexed uterus as to the taking away of one of the ovaries, the other being in such a state of atrophy that it had no outlines, and was inert. In my fifth case the two ovaries had been amputated by surgeons of renown in Holland, at different times, without permanent benefit. At my operation there was no trace of another ovary, and what I did was to separate part of the omentum and a coil of small intestine from the uterus to which they were attached, and to divide another piece of omentum which adhered to both the fundus uteri and the cicatrix in the abdominal wall. Here the two castrations did no good. The liberation of abnormal connections near the seat of pain did what was wanted, and must be regarded as something more than the completion of the two oöphorectomies. All these cases had been discussed at repeated consultations among a number of experts; nothing was overlooked in the way of palliation, and no decision was taken without unbiassed deliberation. Even this small experience shows how this subject of operation for nervous dysmenorrhœa is surrounded with difficulties both of diagnosis and prognosis. In looking at the vast multitude of patients who come under professional notice, with a medley of nervous or mental symptoms so tantalizing by their refractoriness and their inexplicability, we can understand how it is that many hasty, impressionable practitioners, exasperated by their fallibility, infatuated with novelty, enticed by example, and eager for local notoriety, have yielded to temptation, have risked numberless abdominal sections in the hope that chance would favor them, and so have helped to prove how strong is the contagion of folly.

When one recollects how many such cases undergo an unaccountable spontaneous cure, how often the symptoms cease after some mental impression or physical shock, or a perseverance in some extraordinary position, how many fruitful but painful ovaries have been saved by Dr. Weir Mitchell's systematic treatment, and how often it has happened that a threatened, simulated, or imperfect operation has been enough to frighten or charm away all acquaintance with suffering, doubt falls upon both the asserted necessity and the reputed success of the operation itself. It can never be determined how much is due to the amputation, how much is a psychical phenomenon. How many women have been doomed to sterility that would have been equally relieved by a farce or a failure, can never be made out. But it is a query which takes the gloss off a mass of statistics.

Still we do not pretend to say that cases of nervous dysmenorrhœa, with neuralgic hysterical symptoms, are not occasionally to be met with in which medication fails, and for which there is no other alternative than operation or endurance. But we maintain with Battey, Duncan, and many other wise and prudent men, that such patients are comparatively few and far between. And it is only when one hears such well-authenticated, revolting stories as that of a young lady who, in good health, leaves her home, goes to London or some provincial town, happens to have a trifling indisposition, consults ——, who, troubling himself only to draw out the avowal that her periods were accompanied with "*quelque malaise*," on the spot insists upon oöphorectomy, and a few days afterward does it, that the mystery of some recent statistics is unveiled. Fortunately, she lived to return and tell what had passed. If she had died, what ought to have been the verdict? Have early or later warnings been illtimed or impertinent?

No one can pique himself upon the outcome of oöphorectomy for mental alienation. A few melancholy girls, worn out by long suffering, and driven to think of the river by disappointment at the abortiveness of doctoring, may have laughed and found life tolerable afterward; for women are not morally affected by castration in the same way as eunuchs. But pure madness—no; gynecologists will never empty the lunatic asylums. They have sent some women into them. Madhouse dissections show generally only good or atrophied ovaries, and scarcely in any real ovariotomy cases have the patients been mad.

The pleasantries of men we do not care to name, who talk of freeing the world from the mad and the bad, only point to the extinction of the human race and the self-castration of the last man—for he who cuts mad people must himself be mad. And as for nymphomania, one operator put his own person in danger when he counselled so inconsequently. He must have known that passion in women mocks at oöphorectomy, and his illogical reasoning condemned his judgment. Call a spade a spade, and what would such oöphorectomists be?

The erotic fury and bad habits which mark the ill-regulated mind are matters more for the consideration of the moralist than the surgeon. Parents, tutors, and the clergy ought to be the guides and protectors of youth. The profession can only act by instructing them. No one has more wisely handled this subject than Wheelhouse, the worthy consultant of Leeds, nor can any one do better than recommend his pamphlets and quote the concluding sentences of one of them:

> "If medical men will teach parents the true nature of the dangers to which, when they leave their fostering care, their children will be exposed—
>
> "If parents, acting on the knowledge thus imparted to them, will conscientiously fulfil their duty to their children—
>
> "If those to whom the education of the young is entrusted will see that ignorance is displaced in favor of wholesome knowledge—and that, as far as possible, purity of mind, as well as intellectual culture, are the objects at which they should aim, then I think all else will rest with the clergy—and that they, by their positive teaching of the essential holiness of God, with the perfect, spotless character of Christ, as the revelation of the pure nature of the Deity—and as the measure of our own high calling, may rightly be left to inculcate these as the strongest of all moral antiseptics."

The following are the conclusions that may be drawn from the facts at command:

That the operation of oöphorectomy, or the removal of normal ovaries, is one which may be advised in some cases of uterine fibroids, and in uncontrollable uterine hemorrhages.

That it is to be resorted to in certain malformations of the genital organs, deformities of the pelvis, and accidental obstructions of the vagina.

That the right to use it is very limited in cases of ovarian dysmenorrhœa or neuralgia, and only when they have resisted all treatment, and life or reason is endangered.

That in nearly all cases of nervous excitement and madness it is inadmissible.

That it should never be done without the consent of a sane patient, to whom its consequences have been explained.

That the excision of morbid ovaries and appendages should be distinguished from oöphorectomy, and ought not to be done without the authority of consultation, as in most other cases of abdominal section.

That in nymphomania and mental diseases it is, to say the least, unjustifiable.

Professional reputation is a sacred trust. Generations have handed down that of physic unsullied. To maintain it is with us a personal obligation, and our individual responsibility is now greater than ever. There is so little scope for concerted action in medicine, that the popular estimate of it must be an *ex pede* estimate. Medicine has none of the symbolical trappings of state authority or of celestial inspiration which tell upon the fears and superstition of the people. It is hope that makes them seek and cling to it as their first refuge in time of trouble. It is with them, in their homes, their guide and comforter. People pay little heed to presidents and rectors. The village doctor represents the profession to them, and each in his little circle is high priest and chancellor. By his skill and conduct the whole faculty is judged. He is like one of the fragments in a mosaic. If he is unsound, goes wrong, fails in fidelity to the *lex non scripta* of his class, he falls from his place, leaves a blot which all can see, and the whole composition is marred. In the exercise of his profession each member is so independent, while all are so linked together in honor and duty, that, as sentinels, we have a mutual interest in keeping watch and ward over each other's loyalty, and sounding an alarm in case of default. Of late, the laparotomy epidemic has called for one of these challenges. It has roused a feeling not of jealousy, but of suspicion and concern for professional honor. When men in clubs begin to jeer at gynecological domiciliary fussiness, and husbands are furious at the rumors of mysterious diseases, unknown to Sydenham and Cullen, being rife among their wives and daughters, there must be something wrong. It is time to look into the matter. If we hold the mirror up to nature, only changing the sex of the actors, the spectacle is not flattering. Fancy the reflected picture of a coterie of the Marthas of the profession in conclave, promulgating the doctrine that most of the unmanageable maladies of men were to be traced to some morbid change in their genitals, founding societies for the discussion of them and hospitals for the cure of them, one of them sitting in her consultation chair, with her little stove by her side and her irons all hot, searing every man as he passed before her; another gravely proposing to bring on the millenium by snuffing out the reproductive powers of all fools, lunatics, and criminals; a third getting up and declaring that she found, at least, seven or eight of every ten men in her wards with some condition of his appendages which would prove to be incurable without surgical treatment, and a bevy of the younger disciples crowding around the confabulatory table with oblations of soupplatefuls of the said appendages; if too, we saw, in this magic mirror, ignorant boys being castrated almost impromptu, hundreds of emasculated beings moping about and bemoaning their doltish credulity, showers of cases, ready for cutting, falling like manna, every morning, at one spot, while in another they drop in at the rate of one and a half the year,—should we not, to our shame, see ourselves as others see us? And if at the same time we were to hear a few of the sisterhood, more frightened than shocked, muttering remonstrances, and crying out like the Ephesians of old, that their craft was in danger,—say, should we not be bound to enter the strongest protest against their selfish wailings, and indignantly to denounce such follies as a personal degradation, a crime against society, and a dishonor to the profession?

T. Spencer Wells.

We understand by the term "castration" the removal of normal or degenerative ovaries, not, however, including those which have developed into large tumors. The results of such extirpation are: (1) Amenorrhœa, (2) shrinking of the uterus and of the tubes. Exceptions are rare, and have their special causes, as, for instance, incomplete removal of the organs and inflammatory conditions; experiments on animals accord with those results. The uterus and Fallopian tubes in young animals do not develop, or may even undergo atrophy when the operation is performed in later life. The "rut" does not take place, or it vanishes if it has already appeared; moreover, this rule has individual exceptions, which, just as in human beings, find their *raison d'etre* in special conditions, as, for example, in cases of "perlsucht." Defect or rudimentary development of the uterus and amenorrhœa constantly accompany congenital deficiency or the rudimentary development of the ovaries, so that by this the dependence of uterine development and of menstruation on the ovaries is demonstrated. Also, the diminution of the uterus at the climacteric appears to be occasioned by the cessation of ovulation.

These facts are undoubted; on the other hand, we know little of the influence which castration exerts on the body as a whole, and on the nervous system. The investigations of Puech have aroused very serious doubts whether the female type of configuration, the development of the breasts and of the external genitals, the tone of the voice, the peculiar mental tendency and mode of thought of the female are closely connected with the presence of the ovaries. At any rate, the complete female type has been observed in women who have a congenital defect of these organs. Castrated animals show a greater inclination to the laying on of fat, but not after a morbid manner, but more as a co-phenomenon of good general nutrition, even though no special mode of feeding is employed. This has also been observed often in spayed women. A quieter temperament is noted by veterinary surgeons as a further consequence, and is brought into connection with the cessation of the rut. A curative effect can be obtained by castration in two ways: either we remove the degenerated ovaries, the tubes, and accessible portions of the broad ligaments, because these structures *per se* provoke the pathological phenomena, or we extirpate both germinal glands, in order to use the influence of the climacteric period, viz., the suppression of ovulation, for the cure of certain local diseases of the sexual canal, especially of the uterus, or of certain general disorders and nerve affections.

Diseases of the ovaries and tubes, small cystomata, dermoid cysts, fibromata, follicular cystic degenerations, tubo-ovarian tumors, pyosalpinx, and others, may determine very considerable troubles and suffering, and among these, also, serious nervous derangements. The extirpation of such structures stands on the same footing as the removal of any other part of the body which has become useless and degenerate. The greater danger which is induced by opening the peritoneal cavity, is the only thing which makes a difference, so that we have to weigh carefully the injurious effects of the existing disease against the danger of the operation; but no one will doubt that such surgical operations are justified in cases where the nervous system is in a special degree injured by the above-named affections. This, however, is often the case, as well by reflex and sympathetic processes as by injury of the general state of health due to the constant pains, hemorrhages, and disturbances of digestion. Moreover, the tendency to psychical derangement often operates injuriously. Certain diseases and anomalies of the uterus, as hypertrophies, fibro-myomata, retroflexions, rudimentary developments, are by castration partly cured with much certainty, and parly hindered in their injurious actions. Nervous symptoms are induced very commonly in uterine derangements in a direct or indirect manner. The question of performing castration may arise in these cases as soon as a psychosis or highly developed neurosis is kept up by those affections; even when other consequences of them do not require the operation.

Castration further has not only been proposed, but also performed in cases where no demonstrable disease or anomaly of the sexual organs existed, but only a group of symptoms of nervous nature, such as is often observed in disorders of the genital organs. The existence of such a condition was assumed in spite of the negative result of the examination, and it was said that on account of its delicacy it was not accessible to our diagnostic appliances. This view scarcely deserved to be refuted. Just as there exists a nervous dyspepsia, so there exists also a group of symptoms in the nerves of the genitals and in their vicinity, without there being the least anatomical alteration of those organs. The possibility that such a condition during the exploration may be overlooked, must be admitted, but who would undertake an operation fraught with danger to life on such a possibility?

Whilst in the above case the pathological alteration was always only taken for granted, by others it has been regarded as completely superfluous. The neurosis or psychosis is thought essentially to be induced by the sexual functions, especially by menstruation, in which the organs themselves may be quite sound. Appeal has especially been made to the periodic psychoses, and very serious epileptic or hystero-epileptic attacks appearing only at the catamenial epochs. The origin of these grave forms is certainly best elucidated by the consideration of the dysmenorrhœa so frequently occurring, in which either no change of the sexual canal is present, or the existing disease is out of all proportion to the violence of the disorder. We see that the patients in question often inherit a tendency to nervous disorders, or have been subjected in childhood to injurious influences, and have been badly educated as regards both mind and body, or have passed through grave acute or chronic diseases (*e. g.*, scrofulosis, chlorosis), at that time or in the years of development. Often even in their childhood manifest signs of nervous disorder were observed, even the first menstruation was attended with pain and illness. In all such cases the cause of the dysmenorrhœa must not be sought in the sexual organs, but in the condition of the body in general, and especially in the condition of the nervous system. If now, together with the usual symptoms of dysmenorrhœa, or in the place of the latter, we observe grave sympathetic pain in remote parts of the body, and motor and vasomotor disturbances, or even psychoses, we shall much more incriminate the general derangements. We are the more justified in this, as signs of nervous affection commonly also become evident in the interval.

The menstruation in this case only gives the last impulse to the complete outbreak of the disorder already imminent, and determines thus only the time of the attack. It must be allowed that this explanation does not meet the case invariably nor always completely; menstruation is not always the last drop of water which causes the already full vessel to overflow. Its part in the neurosis is sometimes manifestly greater, and cases are even seen in which that sexual function must almost exclusively be incriminated as the cause. I have seen strong, absolutely healthy individuals without any tendency to nervous disorders, without any troubles in the intervals, attacked by the most violent pains during their periods; sometimes more extensive consensual phenomena were present. No anatomical change in the genital canal was demonstrable. In one instance hereditary tendency was present, so far as the mother had suffered with the same symptoms. An explanation for observations of this kind is with difficulty given. Abnormalities of structure probably exist in the ganglionic system or in the lumbar cord, in which exclusively the districts devoted to the sexual functions are concerned. This matter has in recent literature been treated but scantily and superficially, although the enigmatical phenomena appearing in such neuroses, and especially in vicarious menstruation, are of great interest. The older authors occupied themselves more with this subject and have brought together much relating to it, but the observations have been collected with so little critical acumen that they are useless. Naturally, on account of the darkness prevailing on this subject, it is impossible to lay down rationally an indication for castration in such cases.

Many gynecologists went now still further and completely gave up looking, not only for any pathological alteration of the sexual organs, but even for any connection of the neurosis or psychosis with the sexual functions. By this castration has been specially hindered in its development and in its reputation. The opponents won an easy victory in their opposition to an operation never free from danger, and which has to be executed in a disease standing in no causative connection with the genital apparatus. Battey has always maintained a causal connection with menstruation, and expressed himself very cautiously in setting forth indications for the operation: "In cases of long-protracted physical or mental suffering, dependent on monthly nervous and vascular perturbations, which have resisted persistently all other means of cure, the question of a resort to the operation is to be committed to the prudent judgment of the conscientious practitioner in each particular case." Battey and Sims (who first decidedly countenanced the operation in America) have, so far as I know, never once removed the ovaries unless considerable morbid conditions were present in the genital apparatus. Not until later have unwise castrations of this kind been often performed, when the organs were intact and the neuroses and psychoses were not at all, or but slightly, connected with menstruation.

An operative proceeding under such circumstances is not to be justified; the probability that after the removal of the germ glands nutrition will improve and the temperament become calmer, gives as yet no prospect of the cure of a grave neurosis or psychosis. The communications respecting the influence of the natural climacteric on the course of existing nervous disorders are too contradictory to enable us to form a right judgment. One psychical or nervous disorder vanishes about this time, another gets worse; even persons previously healthy get ill at this time of life. The conditions under which the one or the other happens have not been properly studied. The experiments which up to the present time have been made with the climacteric artificially anticipated by castration, in the troubles we are now considering, are not very inviting.

Castration is indicated in a psychosis evoked or maintained by pathological alteration of the sexual organs, and in a neurosis originating from the same source, as soon as this imperils life or hinders all occupation and all enjoyment of life. The indication is also present when that disease represents only one causal factor in the genesis of the affection, without the removal of which a cure is not to be thought of. Of course, also, the remaining causes of suffering must be in this case accessible to treatment. Other milder methods of treatment must have been tried previously without success, or, as in the case of many small tumors of the ovaries and tubes, must from the outset give no promise of success. Castration must actually affect the cause which occasions or keeps up nervous irritation. The operation will thus be of use when a degenerated or dislocated ovary represents the irritative focus, or as soon as a greatly swollen and retroflexed uterus presses on the sexual plexus and the organ is brought into a state of atrophy. Castration promises success when the bleeding and anæmia occasioned by a fibroma play an important part in the maintenance of a psychosis, so that a cure does not appear possible without getting rid of that evil; but castration is absolutely no universal remedy for any neurosis originating from a genital-organ disorder, or kept up by the same. The cessation of ovulation will avail nothing if the irritation starts from the nerves which are compressed in a shrunken cicatrix of the broad ligament, or elsewhere in a cicatrix of the pelvic connective tissue.

The proof that a neurosis or a group of nervous symptoms has its cause in an affection of the genital organs cannot always be easily given. The simultaneousness of the two things proves, of course, nothing by itself; the seat of the nervous troubles is of great value; we find in woman, extremely often, phenomena which run their course in the numerous nerves connected with the lower part of the lumbar cord. A feeling of pressure, pain, and bearing down in the sacral region, dragging and radiating pains in the iliac regions and in the upper part of the thighs, coccydynia, and anæsthesias and hyperæsthesias of the introitus, vaginismus, bladder troubles, tenesmus, semiparesis of the lower extremities, and other symptoms belong here. The nerves with which we have to do here are often directly attacked by the disorder; for the most part, however, the phenomena are partially or almost exclusively of a sympathetic or reflex nature. The most varied combinations of the different symptoms are observed in reference to number and intensity. The series of phenomena have been brought for some time into connection with sexual disorders.

The later physiology, which has discovered in the lumbar cord a chief centre of the genital functions, speaks on the whole for the correctness of this view; those "lumbar cord symptoms" are in the woman incomparably more frequent than in the man, which agrees with the preponderating magnitude and importance of the sexual organs and of their more frequent diseases. The presence of such phenomena is, however, no sure sign of the causal connection, since those may very well have another origin, viz., independent affections of the nerve centres and of the vertebral column, anæmic conditions, irritation of distant peripheral nerves other than those of the sexual apparatus, so that we observe them decidedly not rarely, when the latter is completely intact; whilst we sometimes find them wanting, though very severe morbid changes exist. Its presence has always a decided value in support of the assumption of a causal connection, and this so much the more when the symptoms gradually extend themselves more widely from the sexual organs and their neighborhood, and thus stage by stage the nerves lying higher up are involved. At times this advance takes place along with the also gradually increasing local affection; in other cases, an "aura" in the course of the lumbar nerves precedes the attack occurring in some part of the body at a higher level, or precedes an attack of general convulsions. Simple painful sensations which radiate from the pelvis toward the hypochondria, breasts, and shoulders, are very frequently complained of. Also we sometimes see neuroses only on the side of the body on which the organs (ovary, tube, ligament) are exclusively diseased. A neurosis in parts of the body lying at a distance changes its seat sometimes for one which appears in the genitals or in their vicinity. Many nerve tracts are very intimately connected with the sexual apparatus; the consensus with the stomach, throat, breasts, larynx, thyroid, has been already dwelt upon by the old physicians. Individual nervous symptoms readily concur with determinate genital disorders; thus the pains from the iliac region radiating toward the hypochondria, breasts, and shoulders, concur with inflammatory conditions in and around the ovary; gastric disturbances concur with retroflexion of the uterus.

Great stress has been laid on the time relation between the first appearance and the later progress of neuroses and certain phases of sexual life. The nervous affection begins with puberty or with the first cessation of the periods in the climacteric; it appears only during menstruation or in the middle of the interval, or in pregnancy. The coincidence with menstruation, as we have above remarked, has been overestimated; it is, however, always of importance, and this so much the more the more free from trouble the interval is. The connection may sometimes also be demonstrated by the vanishing of the neurosis during a certain stage of sexual activity. The cause is then usually very clear, as in the rising of a uterus which has become pregnant out of the pelvis. Sometimes it can be demonstrated that the neurosis has arisen simultaneously with the beginning of the anatomical change, and that every exacerbation concurs with an exacerbation of the sexual disorder. The outbreak and conversely the restraint of nervous symptoms by mechanical agents—*e.g.*, pressure purposely made to operate on the sexual organs, especially on the ovaries—has been looked upon as a very certain proof of their origin. The incorrectness of this view has soon been made evident. The nervous system is so coherent a whole, that a transfer of the irritation, especially in the morbid state now under consideration, is very easily possible in all directions. An irritation applied to the ovaries may, therefore, start an attack which originally arose primarily in a reflex manner from some other part of the body, or which had its origin in an alteration of the centre.

The risk of deception is especially great when the phenomenon starts in the sexual organs, whilst the cause is situated in the centre, as is not rarely the case in central ovarian neuralgia. Pressure on the ovary is in this case often extremely painful, just as touching the face in a tic douloureux of central origin. The dependence of a neurosis on a sexual malady can unfortunately but rarely be demonstrated in the way of experiment; this may occur, however, especially in anomalies as regards form and position of the uterus, as when reposition, the introduction of a ring, or the straightening of the organ has put an end to obstinate vomiting, hemiplegia of the lower extremities, or a persistent convulsive cough, whilst the recurrence of the dislocation immediately recalls the old mischief.

The determination of the causal connection gains in certainty if we are able to follow the genesis of the neurosis. The more immediate causative motor through which the first attack on the nerves arises, and the place where this happens must be discovered. The direct effects of the original irritation but seldom remain isolated on account of the special quality of the female nervous system. Further sympathetic and reflex influences soon come into play, so that the first starting-point is, it must be confessed, often not easily found out. Compression as well as extension and dragging of the nerves, partial or complete exposure of their terminal branches, play continually a principal part in the production of the first phenomena. Pressure is occasioned in a double way, a swollen or dislocated organ, or an exudation, or a special tumor, compresses the neighboring nerves, even a whole plexus; quite as often compression takes place in the interior of the tissue, as in inflammatory foci, connective tissue hyperplasias of the uterus, and is especially marked in the contractive processes of the ligaments and of the pelvic connective tissues. The contracting stroma in the so-called cirrhosis of the ovary hinders the dilatation of the follicles, gives an impulse to their abnormal involution and to abnormal conditions of tension. Dragging occurs especially in sinkings, prolapses, and backward displacements of the uterus, dislocated ovaries, small very movable ovarian tumors; combinations of dragging and pressure occur in inflammatory processes attacking the peritoneal attachments of the uterus, as soon as the intra-abdominal pressure is increased by the upright position, by walking, or by some powerful action of the diaphragm. The degenerated tissue is compressed in considerable flexions at the angle of bending, and stretched at the opposite wall. Retained secretion conditions tension in endometritis, and excites contractions which are the more painful the less easily the outflow takes place. Stenosis due to swelling of the mucous membrane of the cervix or simultaneous flexions, may then act especially injuriously. Also draggings of the adhesions, which have been produced during the perimetritis which so often complicates these affections, are results of those contractions. The natural movements of the uterus and the bladder, and their extensibility, are hindered by their being embedded in contracting exudation, which gives occasion to painful contractions and dragging on the stiff, surrounding parts. The extraordinarily severe colics which often set in in an intermittent manner in carcinoma of the body of the uterus, in extensive endometritis, and in pyosalpinx, are sufficiently known.

There are catarrhs of the vagina which are accompanied by atrophic processes, attended even by formation of considerable strictures; these though occurring for the most part in elderly women, are sometimes, however, met with in young people. Severe irritations ensue especially when coitus is not avoided; moreover, infective and even innocent catarrhs of the sexual canal, and even of the introitus, together with papillary swellings, erosions, intertrigo, and at the same time excrescence at the meatus urinarius not infrequently lead to troublesome nervous complaints. Considerable gaping of the introitus with insufficient closure of the vagina favors the penetration and the action of all mechanical and infectious agents.

Anatomical changes are not always very extensive and may yet lead to very considerable irritation; large neoplasms, carcinomata, ovarian tumors often cause no nervous disturbances, while a little cicatrix and apparently unimportant dislocation induce such. No measurement is possible in dealing with manifestations of nerve life, nor does the intensity of the disease do it. An ovary of which the ovulating tissue is completely destroyed, causes less trouble than one whose follicular apparatus, partially preserved, is embedded in a contracting stroma. The development of a somewhat intense nervous disorder from such a starting-point depends on very different factors. Many women have for years their local painful sensations limited to special tracts, others show more numerous phenomena in different branches of the sacral and lumbar plexus, without any important general nervous condition arising therefrom. Many, certainly, present one or other sympathetic symptom beginning in more remote parts of the body—*e. g.*, an intercostal neuralgia, an irritating cough, a cardialgia, without on this account any necessity arising for assuming the existence of a general neuropathy. The circumstances which induce such a state, are long duration of the local disease, complicating effects of the same—*e. g.*, loss of sleep and of appetite from the pains, accompanying losses of blood, copious leucorrhœa, dyspareunia, and in consequence mental depression and too great attention directed to the evil. The involvement of the psyche which often soon ensues, usually leads rapidly to a general neuropathic condition. When we have to discuss the question of executing an operation dangerous to life, we must procure complete information respecting the following points—viz., whether the genital disorder existing is the only, or at least most important etiological factor for the origin of the neurosis, whether other causal motors are not in operation, and what significance these have when such are present. This is so much the more necessary as the dependence of the neurosis on the sexual disease is seldom direct, as in the case of an experiment, but can only be established through a kind of indicative proof. We must therefore carefully test the different points which speak for and against, and, also, finally endeavor to exclude other causes, which have especially to be weighed in considering the genesis of the nervous disease. To this category belong diseases of other organs and parts of the body, especially of the stomach and large intestine. An error may easily creep in when retroflexions are present from relaxation of the peritoneal attachments of the uterus. We are very much inclined to ascribe the complaints which in such cases are often meet with, to that dislocation; this, however, is often incorrect, or not justifiable, since very often an extensive insufficiency of the whole pelvic portion of the abdominal wall, and of the peritoneal attachments of numerous viscera exists with all its consequences—*e. g.*, depression of the liver, mobility of the kidneys, hanging down of the intestine from an elongated mesentery, ampliation of the stomach, meteorism, and others. The retroflexion represents only one part of a more extensive anomaly.

The exclusion or consideration of causes which, without having anything to do with the diseases of special parts of the body, bring forward that which we so commonly try to comprehend under the names of neurasthenia, spinal irritation, and hysteria, is for us of the greatest importance. We shall consider thus the congenital tendency which is sometimes expressed by coexisting formative defects of the body (signs of degeneration), hereditary conditions, the injurious influences operating in childhood—*e. g.*, bad corporeal and mental education, chronic and acute grave disorders. Unsatisfied sexual impulse, onanism, coitus interruptus, the use of preservative means, fruitless attempts at cohabitation from the narrowness of the hymeneal opening, or from the defective power of the man, emotional troubles (especially such as operate during a great length of time), grave diseases as typhus, and especially diphtheria, the manifold harmful agencies of social life, often lead to grave nervous disorders. Certainly, sexual circumstances often come into play even at the first excitement of the nervous condition, or sexual influences produce this effect at a later period. In many cases neurosis and sexual disorders are coresults.

We will finally discuss the causes of the mishaps which unfortunately are not rare, and which have brought the operation otherwise so beneficial into discredit. Castration has had the same fate as many other curative measures; it was at the outset received with enthusiasm, was announced as the arcanum for all possible evils, and has finally in many quarters been completely rejected, when it did not of course completely fulfil the previously cherished expectations. The greatest part of the defective results has doubtless depended on the false position of the indication. All operations which are undertaken without the presence of a disease or anomaly in the sexual system are, according to the present standpoint of our knowledge, unjustifiable. The mere presence, however, of a pathological change in the genital system, as has commonly been held, is not sufficient, and a strict proof of the causative connection between that change and the nervous disorder has to be demanded. It was, moreover, not suspected that castration, even when the causal connection existed, might not yet be able constantly to affect the motor of the sexual disease from which the nervous excitement proceeded. Far too little regard was paid to the causes, which together with the genital affection coöperated in the origin of the nervous affection. The cases in which the sexual diseases can be described as the only, or almost only cause of the evil, are certainly not very frequent. Several or even numerous factors concur in the production of the symptoms, as we find to be the case in many other pathological conditions. Castration may here be fully indicated, since it often procures the condition under which alone cure is possible, but also the actions of other than the sexual causes must then be accessible and subjected to treatment. A supplementary treatment of this kind must of course follow castration, when the tedious troubles induced by sexual disorder have produced such extreme nervous weakness and irritability that the latter cannot possibly vanish immediately after the operation. The so-called stability—*i. e.*, the duration of the neurosis after the cause has been removed—we sometimes find here, as well as in other cases; we shall, therefore, do well to watch our cases of operation for some considerable length of time.

This is also needful, because a circumstance belonging to the natural consequences of castration not unfrequently acts unfavorably on the nervous system. The natural climacteric change induces sometimes, even in healthy women, a multitude of nervous and even psychical phenomena. The vasomotor disturbances are especially notorious. This effect of the change of life commonly operates still more effectively in persons whose nervous system is already deranged. The artificial anticipated climacteric will therefore, equally with the natural, act with more potency on patients in this state, and will evoke the ordinary nerve disorders of that epoch in an exaggerated form, and with recurrences more or less positively expressed, of the troubles on account of which the operation has been performed. Happily, the prognosis in these cases is not bad. Improvement ultimately sets in, though certainly often after somewhat long delay. I have seen complete recovery take place in several women, in whom these troublesome conditions had lasted over a year. The view here and there expressed by some gynecologists, according to which the cure of a neurosis obtained by castration is the result only of psychical impressions, finds in the above fact its best refutation.

Another not infrequent cause of ill success consists in the setting up of circumscribed inflammations of the peritoneum and connective tissue, or in the exacerbation of such processes existing prior to the operation. The changes are for the most part not very extensive, consisting of connective tissue capsules round the ligatures, small knots, cicatrices, hard shrunken portions of the ligaments, cords and thready adhesions between the different pelvic structures, or even between these and the intestines. The course of the inflammatory process is often very insidious (creeping). The first ten or fourteen days after operation may be free from fever. I have no doubt that "pathemata" of this kind are more frequent in all laparotomy cases, and those with intra-peritoneal treatment of the stump, and also in ovariotomies, than is usually assumed to be the case. The occasions thereto are, however, in castration more often present in that operation. We have two commonly stiff, short but wide pedicles, formed by the removal of the tubes, which is generally undertaken at the same time. The mucous membrane of the tubes is not seldom diseased, and therefore easily sets up infection. A remnant of the ovary left behind, or part of a pathologically altered tube, has in some cases formed the starting-point of inflammation; the material of the ligature may sometimes be at fault, at least one has seen in abscesses and perforations the remnant of the threads. These inflammations, and the atrophic processes therewith connected, give, of course, as elsewhere, occasion to nervous irritations. The relapses which often occur very late, even sometimes after the lapse of a year, though the neuroses had completely vanished immediately after the operation, are certainly to be explained partly in this manner.

The inflammatory processes have not rarely yet another injurious sequel. This is the onset of periodic hemorrhages resembling menstruation; we must, however, completely abandon the idea that ovulation alone can cause periodic discharges of blood from the sexual passages. Various other processes, among which we must place mechanical disturbances of the circulation, and nervous influences acting through the vasomotor nerves, are equally able to do this. We have among the pathological conditions, in the ligaments, often on both sides, compression of the vessels which return the blood, collateral fluxions, and nervous irritations. The inflammatory focus arises in the site of the germ gland, and the same nerves are affected, not in their internal filaments only, but also in their larger branches. We have even observed swelling of the focus during the hemorrhage corresponding to the enlargement of the ovary during the time of menstruation, and therewith labor-like pains analogous to the ordinary troubles of dysmenorrhœa. Other additional facts may be adduced in favor of the view respecting the cause of many periodic hemorrhages after castration. The natural climacteric is often very notably delayed in cases of chronic pelvic peritonitis, hydrosalpinx, and pyosalpinx. I have seen menstruation occur quite regularly in young women suffering from pyosalpinx with greatly contracted ligament, though the ovaries at the operation were found completely atrophic and bereft of follicles. The ovaries were extirpated along with the tubes, and in spite of this the periodic hemorrhage continued. Long ago inflammatory affections of the uterine appendages, small ovarian tumors complicated with pelvic peritonitis, and salpingitis were looked upon as causes of menorrhagias and irregular hemorrhages. Morbid processes in the uterus and its vicinity may, after the climacteric has long run its course, produce periodic discharges of blood. Veterinary surgeons ascribe the duration of the rut after castration to pathological conditions of the sexual organs, especially in cows, to tubercular deposits in the mucous membrane of the tubes and uterus.

The object of castration cannot, of course, be attained so long as the duration of a periodic hemorrhage, or of irregular congestive conditions and hemorrhages, is kept up by inflammatory foci. If the neurosis had its motor in the ovary, another focus of irritation appears in the place of the diseased organ; if the cause lay in the uterus, its atrophy and the suspension of its activity are not attained.

Such chronic inflammatory processes are with difficulty completely avoided. Silk appears to be not altogether the best material for ligature, since it is difficult to disinfect it completely, or at least, though disinfected, it readily takes up again injurious matter. Catgut is not always applicable, at least not in cases of very stiff, unyielding ligaments. A perfectly healthy tube is best left behind, when this can be done with complete extirpation of the ovary; its removal at the same time necessitates a more considerable ligature, and a great mass of enclosed tissue. Under such circumstances extirpation is quite superfluous, since the Fallopian tube after castration atrophies quite as much as the uterus. A diseased tube must, of course, always be removed. The formation of adhesions to the intestines is best avoided by inducing early action of the bowels after the operation. In every case we must keep our patients under observation for a considerable period; temperature observations must be kept and a suitable treatment begun on the appearance of inflammatory phenomena. Defective cicatrization or even the formation of neuromata in the ligatured pedicle has been described as the cause of unfortunate results, and this view has been supported by the analogy of amputation stumps. This appears *a priori* not improbable. More accurate observations with anatomical examinations are wanting.

On the other hand, there is no doubt about the injurious influence of considerable relaxation of the abdominal walls, or actual eventrations and gastrocele. Those conditions are either already present before castration and are then increased by the latter, or they develop only after the operation and in consequence of it. The bad results are produced partly by the depression of the intra-abdominal pressure, partly through the traction which the attachments of the viscera experience, when the external support is defective. Lastly, we must still mention that to imperfections in the execution of the operation, not infrequently may be attributed the blame of a bad result. The incomplete extirpation of the ovaries is a point here to be especially noted. We have to do, as it appears from what has gone before, in this matter of castration for neuroses, with very complicated circumstances. The matter is not nearly so simple as it might have appeared at the time of the first operation. In order to insure success, we must very accurately lay down the indication for each individual case, especially keep apart the various causal motors concerned in the production of the nervous disorders, and be sure that we do not merely touch on the sexual factor, but also be able to put aside other existing injurious influences. The execution of the operation and a careful after-treatment in reference to the possible consequences, have still to be very carefully considered.

Successful results will not be wanting if we proceed according to the principles laid down in this essay. I dare not say that, especially in the beginning of my castrations, I have had no bad results; but I have also had many results of a brilliancy that can rarely be witnessed after any other operation.

ALFRED HEGAR.

WITHIN my knowledge it has not been the practice of American surgeons to attempt the cure of mental and nervous disorders by the removal of healthy ovaries or of healthy tubes. The ovaries removed, and the tubes as well, have presented visible signs of disease—signs which are evident to the naked eye and palpable to the sense of touch. For the misconception upon this point still existing, my own ignorance of both the histology and pathology of the ovaries is largely responsible in that, during the early history of the operation, I removed ovaries which I erroneously supposed to be healthy, and gave to the operation the unfortunate and now obsolete name of "normal ovariotomy."

In the ovaries are quite frequently found small cysts, more or less numerous, filled with a clear, yellow liquid, alone or intermixed with blood, and of variable consistency. This form of cystic degeneration is to be distinguished from the early stage of ordinary ovarian cystoma, in that it is extremely slow in its growth, remaining almost stationary for one, two, or three or more years, and in that it is often accompanied by pain, by great tenderness of the ovaries, by derangements of the stomach, breaking down of the general health, and, quite often, serious disturbances of the nervous system. In some cases these cysts appear to take on an acute inflammation of the lining membrane and the contents become purulent. Another form of ovarian disease exhibits a sort of sclerosis of the investing tunic, it being thickened, blanched, and generally corrugated. The stroma also presents a sort of fibrous degeneration. In other cases the ovaries are very much shrunken in size, and resemble in gross appearance the senile condition of these organs. Quite often the ovaries are bound down by adhesions to adjoining structures, or so buried in lymph deposits as to be with difficulty even recognizable.

The tubes removed have presented evidences of chronic salpingitis, or were specimens of hydrosalpinx or pyosalpinx. Often the tubes too are extensively adherent to contiguous structures by plastic lymph.

The operations now under consideration have been done for the relief of mental and nervous disorders, which may be divided into three classes, namely, oöphoro-mania, oöphoro-epilepsy, and oöphoralgia. I use the terms oöphoro-mania and oöphoro-epilepsy instead of hystero-mania and hystero-epilepsy, because my clinical experience teaches me that these disorders are dependent upon a nervous irritation proceeding from the ovaries and not from the uterus. I say that my clinical experience so teaches me, because, (*a*) I find the disorders existing in cases where I recognize organic disease of the ovaries, and am not able to recognize any organic disease of the uterus; (*b*) in cases of uterine as well as ovarian disease, when the diseased ovaries are removed, the nervous disturbance disappears notwithstanding the fact that a displaced or diseased uterus may remain. In my experience the time required for the disappearance of nervous disorders, after removal of the ovaries, has been quite variable. In general, epileptiform manifestations have ceased at once. Some of the cases have required for a time the tranquillizing effects of the bromides to ward off threatening symptoms, whilst others have needed nothing. My cases of mania have all been quite chronic and the improvement has been slow. In oöphoralgia, in a few instances, the cure has been immediate and permanent. In the majority it has been slow and gradual; and in others nothing has been gained for even two years after the operation. In a few of these cases the long-established opium habit has proved a complete bar to recovery.

In my cases which have had two years or more to test them, seven have been cases of oöphoro-mania; nine, cases of oöphoro-epilepsy; and twenty, cases of oöphoralgia. The results have been tabulated as follows:

	Cured.	Improved.	Not improved.	Total.
Oöphoro-mania	1	4	2	7
Oöphoro-epilepsy	9	0	0	9
Oöphoralgia	13	3	4	20
Total	23	7	6	36

With reference to the tubes, I may say I have no experience of the effects of their removal on the state of health. It has always been my practice to remove them when diseased and let them alone when sound. In retrospecting my cases I am not able to say that the removal or non-removal of one or both tubes has in any wise seemed to affect the final results of the operation. Of the thirty-six cases now reported, I find:

	Cured.	Improved.	Not improved.	Total.
Both tubes removed	1	0	1	2
One tube removed	4	1	2	7
Tubes not removed	17	5	5	27

It should be remarked, of the cases of mania, that the duration had been from three to fourteen years. Three had been inmates of asylums—one of them for nine years. Of the epileptic cases the majority were of one to three years standing and one extended to six years. The cases of oöphoralgia varied from three to twelve years in duration—but few of them less than five years.

The published records of similar operations in America are not accompanied by such authentic statements of their after-progress as to make them useful at all for my present purpose. When it is noted that the neuroses have disappeared, or have persisted, the lapse of time has been entirely insufficient to determine any positive result. In my own cases a patient who has seemed to be entirely well at three or even six months after operation, has afterward relapsed again into the old rut. *Per contra*, another case which has been little, if at all, benefited during the first year, at the expiration of two, or even three years, proves to be soundly cured. These remarks are especially applicable to oöphoralgia. My cases of oöphoro-epilepsy have given me the most satisfactory results. The cures have been both prompt and complete. This may be in part due to the fact that the exigency of the cases has brought them earlier to the arbitration of the surgeon's knife. Indeed, I am quite convinced of the fact that earlier operation of neurotic cases, before the nervous system has become too much enslaved, can alone yield results fully satisfactory.

It is an interesting fact that removal of the ovaries has been occasionally followed speedily by acute mania. One such case was shown me some years ago by Prof. T. G. Thomas, of New York, the only one I have had opportunity to observe. Several such cases have been reported, one by Prof. Goodell, of Philadelphia. Such result is not, however, peculiar to this operation, for it has been observed to follow upon other surgical operations in no wise connected with the reproductive apparatus. It has occurred to me to see the operation, in two instances, followed by acute parotiditis, suggestive of the metastasis in the opposite direction, so often observed in mumps. Dr. Goodell, and others, have reported such cases.

The limited time at my disposal has not allowed me to gather the results of American operators as fully as I would have desired. I am, however, able to cite, in a general way, the experience of a few of them.

Prof. Wm. H. Byford, of Chicago, writes me: "Sixteen years ago I was consulted by a married woman, aged twenty-eight, who had two children, about a large ovarian tumor of five or six years standing. In giving the history of the case she informed me that she had epilepsy since about the time she commenced menstruating. At first the fits came at long intervals and were mild. They gradually became more frequent and grave, until they returned once in two or three weeks and were intensely severe. Her mind was so much impaired as to cause great anxiety to her friends. She was, in fact, in such a dilapidated condition as to excite discussion between her friends and physicians whether the risk of so grave an operation as ovariotomy was worth while. It was determined to rid her of her great burden in the hope that it might somehow benefit her general condition also. The tumor was large, polycystic, and extensively adherent, and the operation was attended with much difficulty. The opposite ovary being cystic and four inches in diameter was also removed, and I noted at the time that both ovaries were completely extirpated. Twenty-four hours elapsed before she rallied entirely from the shock, and a moderate attack of septic peritonitis protracted her convalescence to over four weeks.

"The points of interest to us in the case are: 1st. That during the second night after the operation and whilst under the influence of morphia for pain, she had a frightful attack of convulsions, so severe and prolonged as to cause great consternation and alarm for her immediate safety. The phenomena were characteristic in every way of an epileptic attack. 2d. That she never after had another convulsion and is to-day in the enjoyment of excellent health. Was it true epilepsy this woman had? I have not now, and never had, a doubt about it. It was recognized as epilepsy by all the physicians who saw her. A noteworthy fact in this connection is that one of her sisters, much younger than herself, is now passing through a similar epileptic experience in a milder form of hystero-epilepsy. She has decided ovarian symptoms and the paroxysms are becoming more and more pronounced, and bid fair, if not interrupted, to result as disastrously as in the older sister. I forbear speculative remarks, and simply give the facts as I observed them. I think, however, they demonstrate clearly a connection between the reflex effects of ovarian disease and true epilepsy in some cases.

"In a case of double oöphorectomy for the relief of prolonged invalidism attended by frequent headache of indescribable severity, the operation was an entire success. This patient, four years before the operation, was insane for several months. It is now five years and the patient remains in good health.

"Three years ago I did this operation for an aggravated form of nymphomania. The patient is now cured of her terrible malady. The ovaries and tubes in this case were greatly congested, and the tubes were removed as well as the ovaries. In the second case, the ovaries were in a state of incipient, cystic degeneration; the tubes appeared healthy and were allowed to remain.

"In looking over my cases I find that all my patients on whom I have operated for nervous disorders were greatly benefited. Some of them have passed from my observation, and of these I cannot say how permanent the improvement has been. Whilst no doubt oöphorectomy is too frequently resorted to, I entertain no question that it is entitled to a legitimate place in surgery for desperate nervous conditions."

Prof. Reamy, of Cincinnati, writes: "I have removed the ovaries in but one case for relief of epilepsy. This patient likewise suffered dreadfully from ovarian neuralgia, and dysmenorrhœa. The time since the operation—only a few months—is too short to determine what the results are to be; however, up to present time relief has been complete. In two other cases where I have done the operation for relief of dysmenorrhœa and neuralgia, one case is completely relieved, the other not improved. My opinion is that in properly selected cases the operation is invaluable in its results, effecting complete cures in some cases and marked relief in others. It is my serious belief, however, that the operation is liable to abuse, and that there is a growing danger in some quarters from this cause."

Prof. M. D. Mann, of Buffalo, reports two cases operated on for ovarian neuralgia more than two years ago. Both were relieved of pain, making slow but sure recovery, and adds: "It seems to me in properly selected cases, the operation is not only justifiable but urgently called for, but that these cases are very few."

Dr. R. S. Sutton, of Pittsburg, gives me the particulars of one case of insanity:

"My case was Mrs. R., aged thirty-one, operated on September 16, 1884. Her uterus was retroverted and firmly adherent posteriorly. The left ovary and tube were glued together by adhesive inflammation and lay behind the uterus adherent in the cul-de-sac. The right ovary and tube were glued together and adherent to the side of the rectum. All adhesions were broken up and both ovaries and tubes removed by Tait's method. The woman recovered and is still living. Her insanity soon disappeared and she remains free from mental diseases and from nervousness. I have observed in many cases that when marked nervousness existed, it either entirely disappeared or was greatly lessened after removal of the ovaries or ovaries and tubes."

Prof. W. T. Howard of Baltimore, kindly communicated two very interesting cases.

1. "Miss J. H., single, aged twenty-three, consulted me in December, 1882. She began to menstruate at fifteen, and enjoyed excellent health until she was twenty. During the past three years she has suffered intensely the entire menstrual period of five to seven days. During all this period she had numerous attacks of hystero-epilepsy; the convulsions were often violent, and she would lie from seven to ten days with her feet perched high upon the wall as she rested in bed, in a state of hysterical coma, more or less profound, moaning and groaning in the most pitiable manner. The conjunctivæ were finely injected. All the

symptoms became intensified by even slight pressure over the ovaries. She had well-marked anteflexion and catarrh of the uterus. When she emerged from the catamenial period she was moderately intelligent until the next one arrived, but was subject to epileptic convulsions. I treated the uterine troubles until they seemed to be quite relieved, and kept her all the time upon Brown-Séquard's prescription for epilepsy. But there was no improvement in the severe dysmenorrhœa, and at times she would lie in a state of coma, writhing in pain, for ten days together. I was compelled to use hypodermatics of morphia very freely, as nothing else gave her relief from her intense agony. I have never seen any one suffer more severely from any disease whatever. She was repeatedly leeched over the ovaries, and counter-irritation by tincture of iodine and emplastrum cantharidis was employed many times, all to no purpose. I should have stated that at each menstrual period there was oozing of blood from the umbilicus and she often spat blood from the mouth, but did not cough it up nor vomit it. Having despaired of relief by other means, I removed the ovaries and tubes November 19, 1883. She was then very thin and pale—looked as if she would ere long find relief in death. She had a severe attack of peritonitis, and was ill for near five weeks. She made a perfect recovery from the operation, and all the distressing symptoms gradually disappeared. She never menstruated from the uterus afterward, but for some months at the catamenial periods she would bleed about the umbilicus. The last I heard of this lady she had recovered and married, perhaps six months ago. The ovaries were at least twice the normal size and resembled in appearance those from another case which were examined for me by an excellent pathologist and microscopist, Dr. W. T. Councilman, of the Johns Hopkins University."

2. "Miss B., single, aged twenty, consulted me in April, 1884, and was under my care for nearly three months. For more than two years she had suffered from severe and almost incessant cephalalgia. She had no uterine disease whatever, but was constantly in a hysterical, and hyperæsthetic condition; indeed, I have never seen any one more so. She had been treated by a highly intelligent physician of Virginia, where she resided. He had carried her to New York, where she remained for some months under the care of one of our most eminent general practitioners. Her physician told me she had taken her weight in bromides and chloral until now they have no effect whatever. A seton had been inserted in the nape of the neck and one in each iliac fossa. These had only the effect of producing local pains, but in no way alleviated the intense headaches, which nothing but the hypodermatics of morphia could diminish. Indeed, these were her only hope of respite so that she could get some hours of disturbed sleep. Having failed to diminish the poor girl's sufferings I sent her home.

"She returned to me again November 3, 1884, when I removed both ovaries and tubes. No unpleasant symptoms followed the operation, and in a few days the cephalalgia greatly diminished. She returned home January 14, 1885, with her parents, who were delighted with the result of the operation. She seemed like a new being. She was their only child, a handsome girl, of noble figure. But the fates were against her. Three or four months subsequently she sustained injuries from an accidental fall which terminated her life in a few days.

"The following is Dr. Councilman's note of the condition of the ovaries: 'The ovaries contain cysts of various size, due to simple dilatation of the Graafian follicles. In addition to the cysts, there is a good deal of induration of the stroma, and in the right ovary an enormous formation of bloodvessels. In character this vascular formation consists of small arterioles which are in general tortuous and traverse the tissue in every direction. In some places they are so numerous that they resemble very much the convoluted sweat glands of the skin. In the left ovary I found several of the so-called menstruation fibromas, due to fibrous degeneration of the corpus luteum. The Fallopian tubes were dilated and the mucous membrane thickened and hypertrophied.'"

Dr. H. P. C. Wilson, of Baltimore, writes:

"In my hands the operation of 'castration' in women for nervous and mental diseases has been most satisfactory; all the cases that I and my son, Dr. Robert T. Wilson, have operated on for the above conditions have been either much benefited or entirely cured. I have only time to mention one case operated on by Dr. Robert T. Wilson. A single woman, aged thirty-five, had been the subject of hystero-epileptiform convulsions for several years. When brought to the hospital she would have from three to five a day, so violent at times as to endanger her limbs and apparently her life. She was worn away to a skeleton and her general nervous condition was indeed pitiable; all general and local treatment had been used without benefit. She grew worse. Her ovaries were removed. Her convulsions ceased. Her general nervousness is very little. She is able now to earn her own living and is an entirely different woman. I think the operation saved not only her mind, but her life also. I think the operation should only be done when all else fails to give relief."

Dr. B. F. Baer, of Philadelphia, says:

"My experience with the operation of 'castration' of women for mental and nervous diseases is quite limited, but what I have had is not favorable."

Prof. Wm. Goodell, of Philadelphia, writes:

"After the lapse of many years my cases of oöphorectomy for insanity, for hystero-mania, hystero-epilepsy, and pelvic neuralgia, show positive and permanent benefit. I can recall but two failures, and those were two cases out of eight of insanity or threatened insanity. The remainder, six in number, were cured. I ought, however, in candor to add that a ninth case, a dreadful one of hysteria, menorrhagia, and dysmenorrhœa, had two attacks of insanity after the removal of her ovaries."

Dr. T. Addis Emmet, of New York, says:

"I believe when the ovaries have become diseased (so that the condition can be recognized, and after other means have failed), they should be removed, and, as a rule, the same conditions will call for the removal of the tubes at the same time. I believe the field to be a very limited one, calling for the removal of the ovaries, whilst still in a comparatively healthy condition and before they have degenerated into new growths. The operation of 'castration' should be confined, in my judgment, to cases of absence of the vagina and uterus, where it is necessary to remove a source of irritation in existing epilepsy, insanity, or threatened phthisis in consequence of the want of development.

"I have watched with interest a number of cases where 'castration' had been performed in young women suffering from various nervous conditions, and, as a consequence, I am not an advocate for its performance. I feel satisfied that the operation would be seldom needed if these women could be removed from home and sympathizing friends, and could be placed under the needed moral influence, where they could be taught to get their nervous symptoms under control; and more especially where patient attention to details could be given with the object of improving the general condition.

"I have seen a few cases greatly benefited after the ovaries had been removed, but the nervous and neuralgic symptoms from which they suffered were, in my judgment, due to an anæmic condition. Efficient as the remedy may be, its practice is a reflection on our skill as physicians, and I am not willing to admit that 'castration' is necessary to cure anæmia and its consequences. I believe that the ovaries have very little influence, if any at all, in producing the symptoms attributed to them, and that the defect lies beyond in the great nerve centres. We are certain to see, and in the near future, a great reaction. I am therefore delighted that you should be selected to investigate and report progress, for I know you are too honest a man to advocate the frightful abuse of the operation existing at the present time.

"In my early life I had the opportunity of witnessing and of making many hundreds of post-mortem examinations. I was then impressed with a fact which has its bearing on this subject. I learned from observation that what seemed to be a perfectly healthy ovary, was a condition seldom found after death in any woman over twenty-five years of age. Cystic degeneration was very common, and often the ovaries were found bound down by old pelvic inflammations, when, during life, not the slightest symptom had been given to indicate any unusual local disease. In other words, I will state that every day ovaries are being removed for various nervous symptoms, and the roughened surface and cystic condition are shown as evidence of the necessity of their removal; a condition where I believe, as a rule, there exists no connection between the supposed cause and effect. The condition presented is often but a normal one, for every ovary undergoes the same cystic degeneration and becomes more and more roughened on its surface, year after year, from ovulation, until at length atrophy readily occurs as a consequence."

Prof. T. Gaillard Thomas, of New York, writes me:

"For all nervous and mental disorders in women which are created, or markedly aggravated by the process of ovulation I regard 'castration' as a most valuable resource. Thus far, my experience in the operation for *purely* nervous and mental disorders has not been very large. It extends to five cases:

"1. A case of insanity almost confined to the period of ovulation. 2. A case of hystero-epilepsy. 3, 4, 5. Cases of epilepsy; in one case confined to the menstrual epochs, and in two cases greatly aggravated by them. The case of menstrual insanity has been entirely relieved, as I learn by a recent letter from the lady's brother-in-law, a physician practising in New Jersey. The case of hystero-epilepsy is cured. The case of epilepsy confined to menstrual periods is cured. The two other cases of epilepsy seem in no wise improved. 'Castration' of the female for nervous diseases has, in my opinion, a brilliant future before it, and yet, I feel that in this and in other conditions it is now being greatly abused by resort to it in entirely inappropriate and unnecessary cases."

ROBERT BATTEY.